

Remarks

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

Claims 36, 37, 41, 48 and 49 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Hanson (US 6,091,498) in view of Uzoh (US 6,140,234) and Mariko (JP 05-331653).

Claim 36 has been amended so as to further distinguish the present invention from the references relied upon in the above-mentioned rejection. Further, new claims 50 and 51 have been added.

The above-mentioned rejection is submitted to be inapplicable to the amended claims for the following reasons.

Claim 36 is patentable over the combination of Hanson, Uzoh and Mariko, since claim 36 recites an apparatus including, in part, an electroless plating unit for performing an electroless plating process to form an initial layer on a substrate, the electroless plating unit including a plating cell for forming a hermetically sealed space with the substrate, the hermetically sealed space having a volume sufficient for receiving a minimum amount of an electroless plating liquid required for the electroless plating process, and a turntable for holding the substrate so that the substrate is cleaned and dried after the electroless plating process. The combination of Hanson, Uzoh and Mariko fails to disclose or suggest the electroless plating unit having the turntable recited in claim 36.

Hanson discloses a semiconductor processing tool 10 that includes an interface section 12, wafer transport units 62 and 64, and processing modules 20, 22 and 24. (See column 3, line 42 - column 3, line 43 and Figure 2). Hanson also discloses a plating module 810 dedicated to electrochemical copper deposition and a semiconductor processing station 900 that is specifically adapted to serve as an electroplating station. (See column 9, lines 8-25; column 20, line 65 - column 22, line 48; and Figures 11 and 33). However, as indicated in the rejection, Hanson fails to disclose or suggest an electroless plating unit including a plating cell for forming a hermetically sealed space with a substrate, and a turntable for holding the substrate so that the

substrate is cleaned and dried after the electroless plating process as recited in claim 36.

Therefore, Uzoh or Mariko must disclose or suggest the electroless plating unit in order for the combination of Hanson, Uzoh and Mariko to render claim 36 obvious.

Regarding Uzoh, it discloses a method for selectively filling recesses with a conductive metal. The method includes sputter depositing a conductive barrier 4 on an insulation layer 3, and then depositing a seed layer 6 with either a CVD method or an electroless plating method on the conductive barrier 4. A conductive metal 8 is then electroplated in recesses of the seed layer 6. (See column 3, lines 55-67 and column 4, lines 24-26). While Uzoh does disclose the use of electroless plating in general, it is apparent that Uzoh does not disclose or suggest any apparatus for performing the electroless plating. Therefore, Uzoh fails to disclose or suggest the electroless plating unit including the turntable of claim 36.

Mariko discloses an electroless plating device including a plating cell 1 for plating a substrate 3. The plating cell 1 has a fixture 4 where the substrate 3 is placed during the plating process and the substrate 3 is held on the fixture 4 with suction provided by a suction opening 13. (See paragraphs [0002] - [0009] and Figure 1). While Mariko does disclose the plating cell 1 for plating the substrate 3, it is apparent that the fixture 4 that supports the substrate 3 during the plating process is not disclosed as holding the substrate 3 during the cleaning and drying of the substrate 3 after the plating process is complete. As a result, Mariko also fails to disclose or suggest the electroless plating unit including the turntable of claim 36.

Since none of the above-discussed references discloses or suggest the electroless plating unit as recited in claim 36, it is apparent that the combination of these references necessarily fails to render claim 36 obvious.

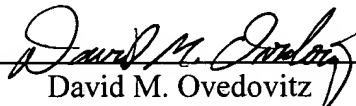
Because of the above-mentioned distinctions, it is believed to be clear that claims 36, 37, 39 and 41-51 are allowable over the references relied upon in the rejection. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in

claims 36, 37, 39 and 41-51. Therefore, it is submitted that claims 36, 37, 39 and 41-51 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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